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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,694	01/19/2007	Adam John Walker	051922-408167	2909
27148 7590 07/29/2011 POL SINELLI SHUGHART PC 700 W. 47TH STREET SUITE 1000 KANSAS CITY, MO 64112-1802				
EXAMINER MC GINTY, DOUGLAS J				
ART UNIT		PAPER NUMBER		
1765				
NOTIFICATION DATE		DELIVERY MODE		
07/20/2011		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspt@polsinelli.com

# Office Action Summary

**Application No.**

10/599,694

**Applicant(s)**

WALKER, ADAM JOHN

**Examiner**

DOUGLAS MC GINTY

**Art Unit**

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 57, 58 and 62-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57, 58 and 62-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-040)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of Prosecution***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 17, 2011 has been entered.

An observation is made with respect to the claim amendments.

The rejection under 35 U.S.C. 103(a) as being unpatentable over Rogier (US 2003/0232844) is maintained.

The text of those sections of the statutes, rules, caselaw, and guidelines not included in this action can be found in a prior Office action.

### ***Claim Observation***

Claim 67 has been amended to include the compound "N,N-dimethylethanolammonium propionate". Support is seen for "propanoate" but not "propionate". See p. 20 of the present Specification. This matter is not addressed further at this point because the same compound is not the elected species.

### ***Claim Rejections - 35 USC § 103***

Claims 57, 58, and 62-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogier (US 2003/0232844).

Rogier teaches salts including, *inter alia*, a base (cation source) such as 2-dimethylaminoethanol (N,N-dimethylethanolamine) and acid (anion source) such as formic acid [0627]. Together, that base and acid form the salt dimethylethanolamine formate (N,N-dimethylethanolammonium formate). Rogier also does not require the presence of water [0623]. The salt may be made by conventional means such as reacting the base or acid [0627]. The reference teaches application of an enzyme such as a protease on a substrate [0030]. It is well known that the protease enzyme catalyzes a reaction with protein. The reference also teaches pharmaceutical (drug delivery) agents [0001].

Rogier does not appear to expressly state that the composition is an ionic liquid, exemplify the salt dimethylethanolamine formate (N,N-dimethylethanolammonium formate), or teach a mp of  $< 25^{\circ}\text{C}$  and a water content of  $< 1\%$ .

Still, the present claims would have been obvious in view of the teachings of Rogier because it teaches both the cation and anion from a limited number of choices for use in compositions for applying an enzyme to a substrate. Obviousness only requires a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988). See also, MPEP 2143.02. Where the composition would have been obvious, the properties thereof would have been prima facie obvious as well. MPEP 2112.01.

***Response to Arguments***

The Amendment and Remarks filed June 17, 2011 have been carefully considered but not found to be persuasive. The rejection under 35 USC 103 is maintained for the reasons of record.

The applicant argues at p. 8 of their Remarks:

An ionic liquid contains only the ions making up the salt (the liquid does not contain any solvent molecules). A typical salt dissolved in a solvent such as water **is not** an ionic liquid.

The applicant also points to an example in the reference that includes a potassium phosphate buffer. The applicant adds at p. 9 that the "ionic liquids of the present invention are unique in that are liquids at room temperature and **DO NOT** have to be dissolved in a solution to be utilized." This argument is not considered to be persuasive. Page 3 of the present Specification indicates that water may be present, although in small amounts. Claims 62 and 68 appear to be the only claims that actually limit the amount of water. As discussed in the previous Office Action and repeated above, the reference does not require the presence of water, and further, the present claims do not exclude the presence of water or other solvents.

The applicant notes that Rogier does not disclose reacting 2-dimethylaminoethanol (N,N-dimethylaminoethanol) with formic acid. Still, the reference suggests that combination and reaction among a limited number of possibilities [0627]. Again, obviousness only requires a reasonable expectation of success. *O'Farrell*, 853 F.2d at 904. See also, MPEP 2143.02. Where the composition would have been

obvious, the properties thereof would have been prima facie obvious as well. MPEP 2112.01.

The applicant asserts that the salt of 2-dimethylaminoethanol (N,N-dimethylaminoethanol) and formic acid, even if formed, would not lead to the "ionic liquid" of N,N-dimethylaminoethanol formate. This assertion is not considered to be persuasive. The salt compound would have been the same, so the property of being an "ionic liquid" would have been prima facie obvious as well. MPEP 2112.01.

The applicants argue that the person of ordinary skill in the art would not have been motivated to modify the teachings of Rogier to arrive the claimed invention. Still, the reference suggests forming the salt of 2-dimethylaminoethanol (N,N-dimethylaminoethanol) and formic acid. The same salt would lead to the "ionic liquid" of N,N-dimethylaminoethanol formate, even if other components are added as well.

The applicants further assert that dependent claims 62-70 would have been novel and non-obvious for the same reasons as for independent claims 57 and 58. As discussed above, however, claims 57 and 58 have been found to be obvious.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS MC GINTY whose telephone number is (571)272-1029. The examiner can normally be reached on M-F, 830-500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS MC GINTY/  
Primary Examiner, Art Unit 1796